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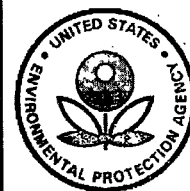
Site Assessment History

- In early 1990s, location of the firehole “discovered by ACOE and documented in INPRS report.
- MDE conducted geophysical survey in July 2002. Several anomalies found in the field.



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Triumph Explosive

- Employees at the plant increased from 211 in 1939 to a peak of 11,500 in 1943
- Due to labor shortages workers were recruited from North Carolina, West Virginia, Virginia, Delaware Maryland and Pennsylvania
- In a three year period 85,000 workers came through the plant

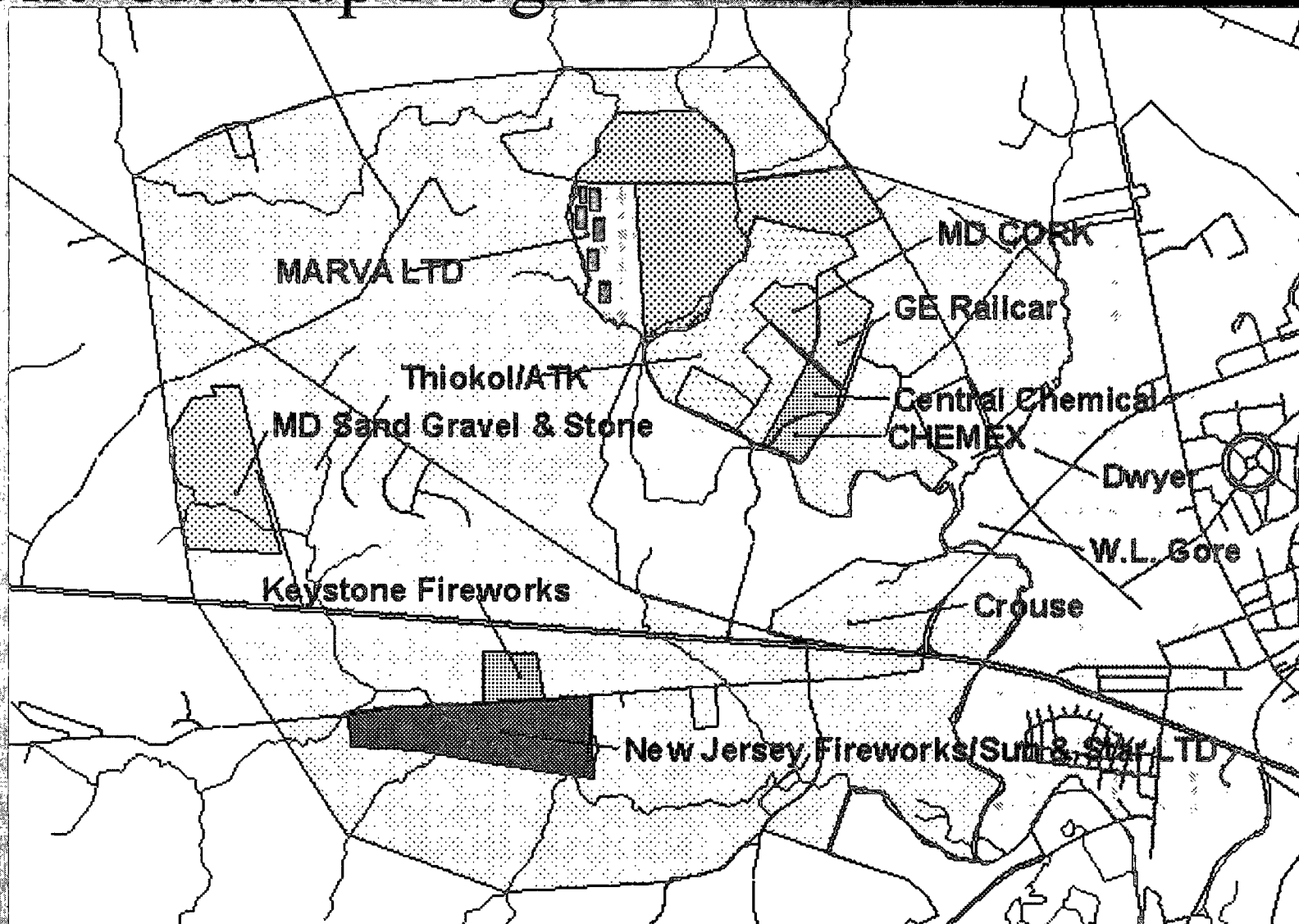
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One Cleanup Program



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Triumph Explosive

- Through a series of mergers and purchases, Noma Electric became part of Mack Truck then went to Signal Oil then to Signal Co. and finally Allied Signal

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Pouring The Waste Into Firehole



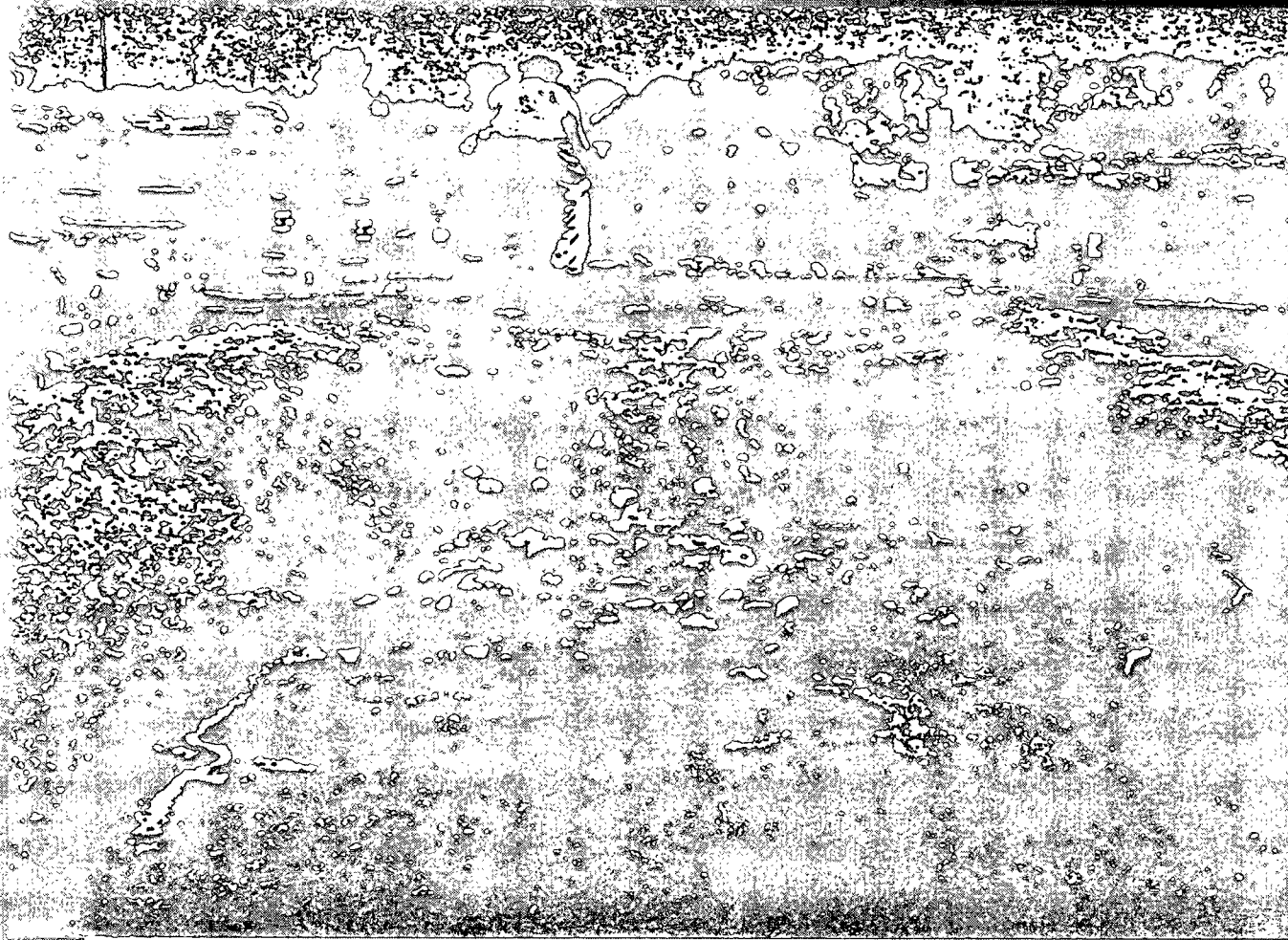
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Photo from TEI Newsletter



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Triumph Explosives

- Early in the war the firm made 81-mm mortar shells for Finland. Pentolite for GB, airplane flares for France, float lights for the Navy and tank mines for the Netherlands.
- Later, lead azide for detonators was added and a contract with the Army was signed to deliver 440,000 lbs of Pentolite. This was later doubled to 800,000lbs

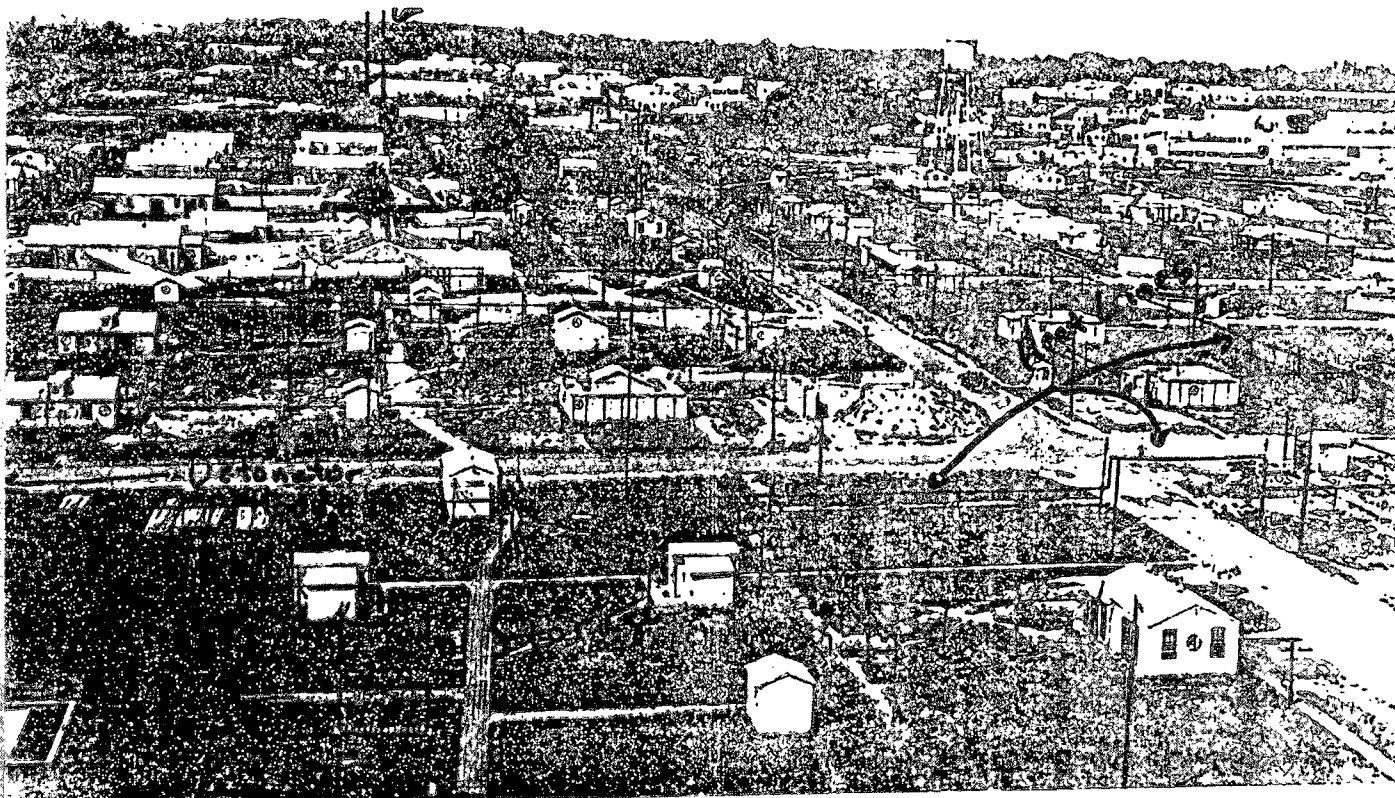
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Triumph Explosive – 40-mm Plant



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The Galaxy Connection

- **Galaxy Chemical was formed in 1960 in Providence, Maryland, approximately eight miles north of the Industrial Park.**
- **James Waters Sr. was a part owner of the facility**
- **After years of complaints and litigation concerning releases from the Galaxy Plant, Mr. Waters offered the use of the industrial park property for the purpose of disposing of waste from Galaxy**

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The Galaxy Connection



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The Galaxy Connection

- In 1969 Galaxy waste was buried in a pit on what is now the General Electric property.
- In 1971 still bottoms were spread on the ground on the land between GE and the IPI property.
- Drums of Galaxy waste were left on a piece of property acquired by Thiokol (ATK) and were subsequently buried

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The Galaxy Connection

- The drums of still bottoms buried by Thiokol are now the area designated as a the Still Bottoms Area, a SWMU and are subject to Corrective Action by EPA.

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Other Sources



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Other Sources - Regulatory History

- **Woodrow Dare – paint and varnish manufacturer burned in 1982**
- **Central Chemical – pesticide mixer with incinerator**
- **WL Gore – Purchased plant from General Tire. Site had contaminated groundwater**
- **State Removal in 1997**
- **GE Railcar – RCRA permitted TSD**

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Regulatory History

- Thiokol/ATK Permitted RCRA facility
- IPI generator
- Stauffer Chemical – ACL mfg on GE property
- Chemical Metals – precious metals recovery

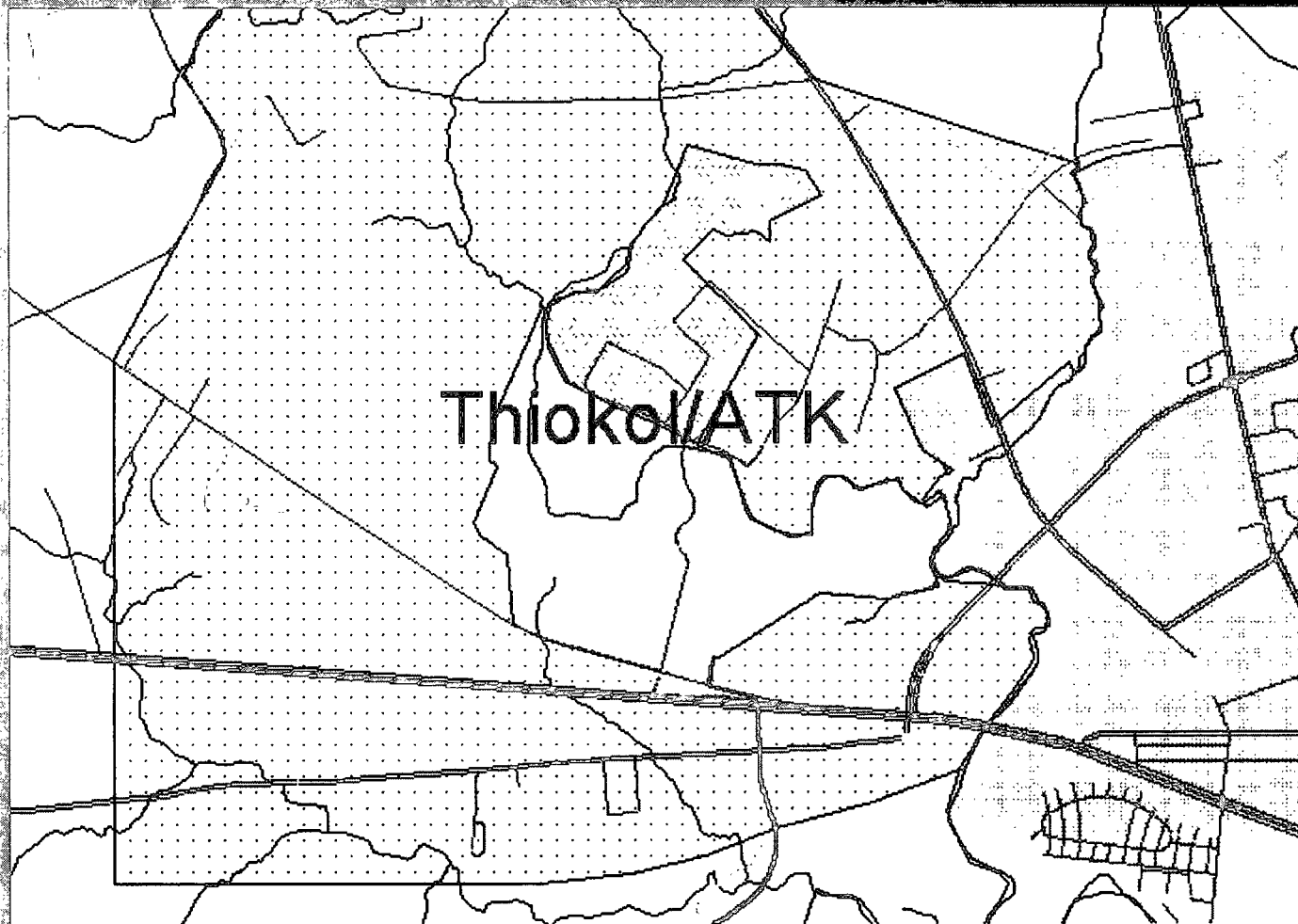
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Thiokol Area



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Thiokol/ATK

- Two perchlorate plumes from SWMUs
- State lead – pilot treatment
- EPA Corrective action
- TCE plume
- Pesticide area
- Still Bottoms area

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Fireworks Mfg - Perchlorates

- During and after WWII individuals that worked in the ordnance industries started or continued manufacturing fireworks and munitions.
- New Jersey Fireworks
- Bell Fireworks
- Keystone Fireworks
- Elkton Sparkler
- Maryland State Fireworks

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Fireworks Mfg - Perchlorates

- Early solid waste surveys of burn pits
- Formulations provided by companies identify perchlorates in mixes
- Early Site Assessments did not test for perchlorates

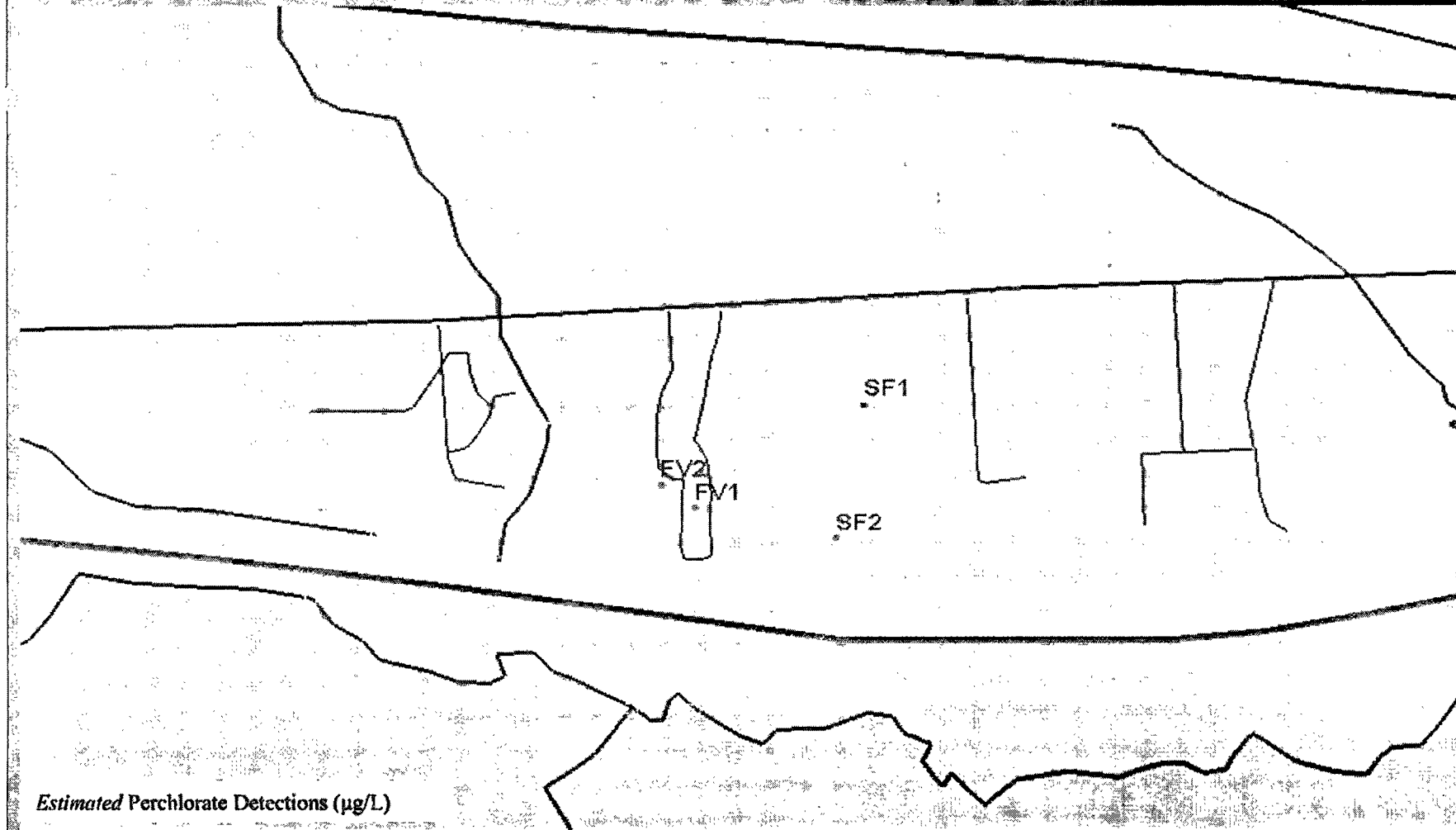
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Contaminated Public Wells

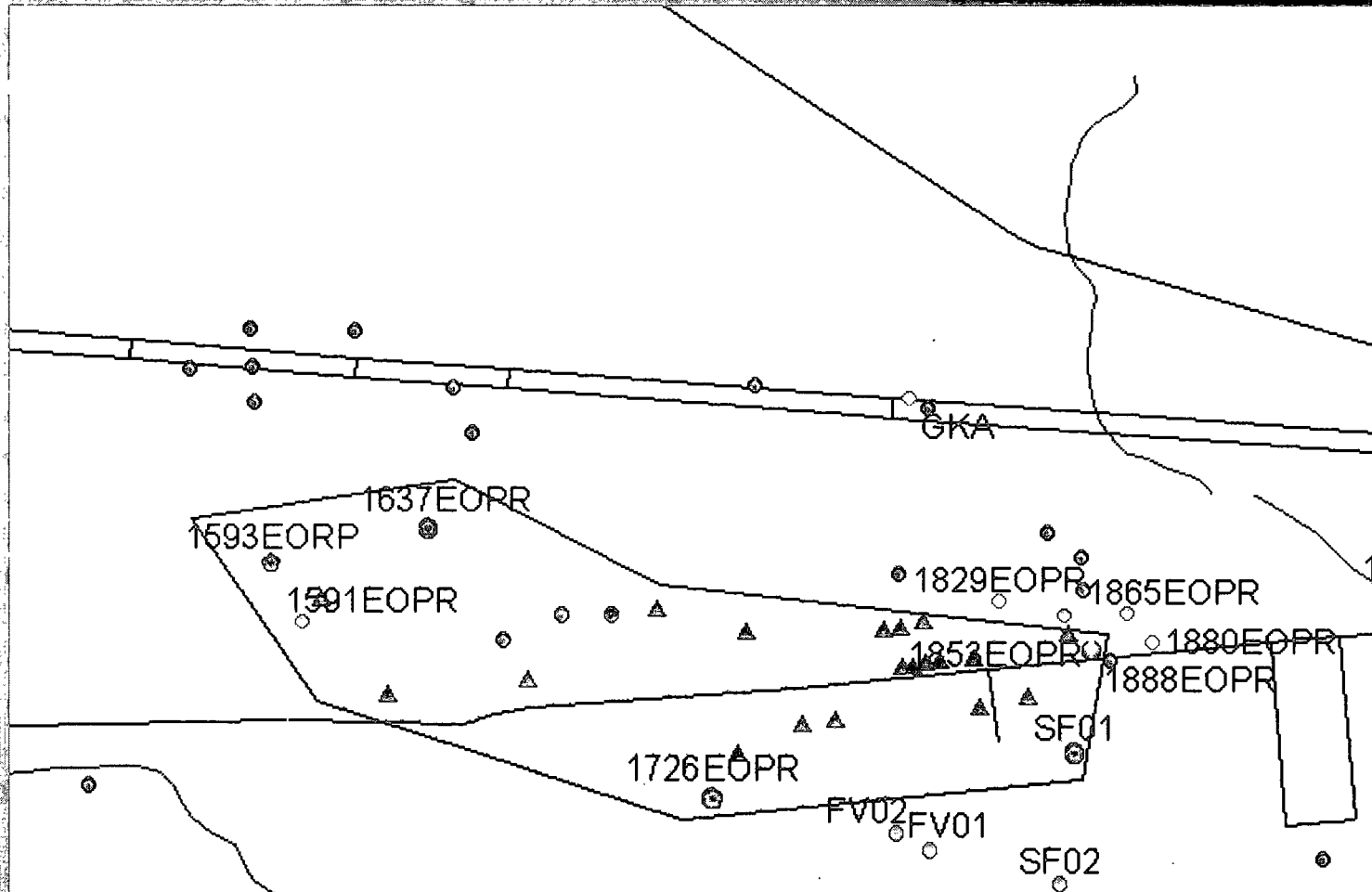


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Perchlorate Study Area



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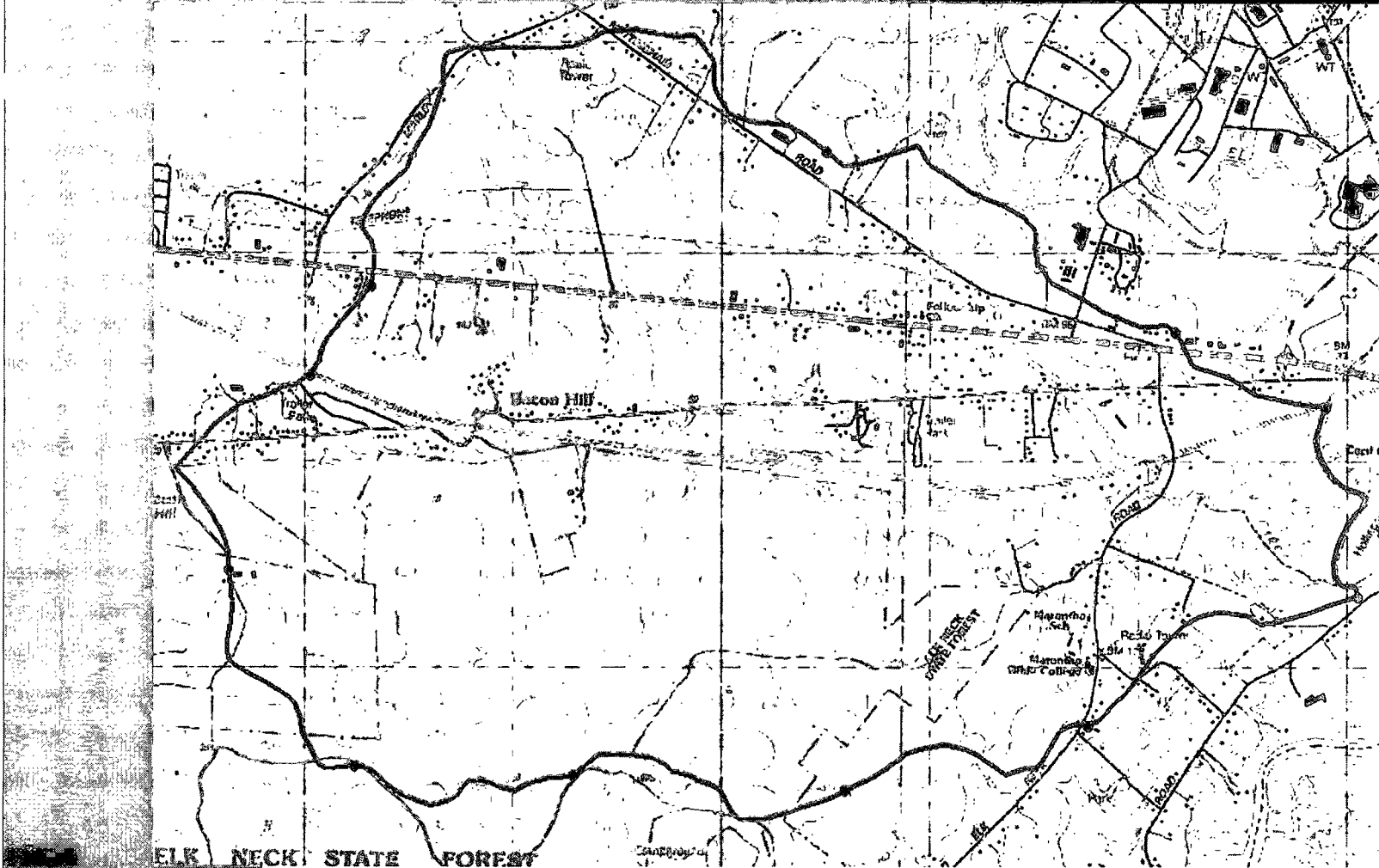
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Perchlorate Study Area



Mill Creek Drainage Basin

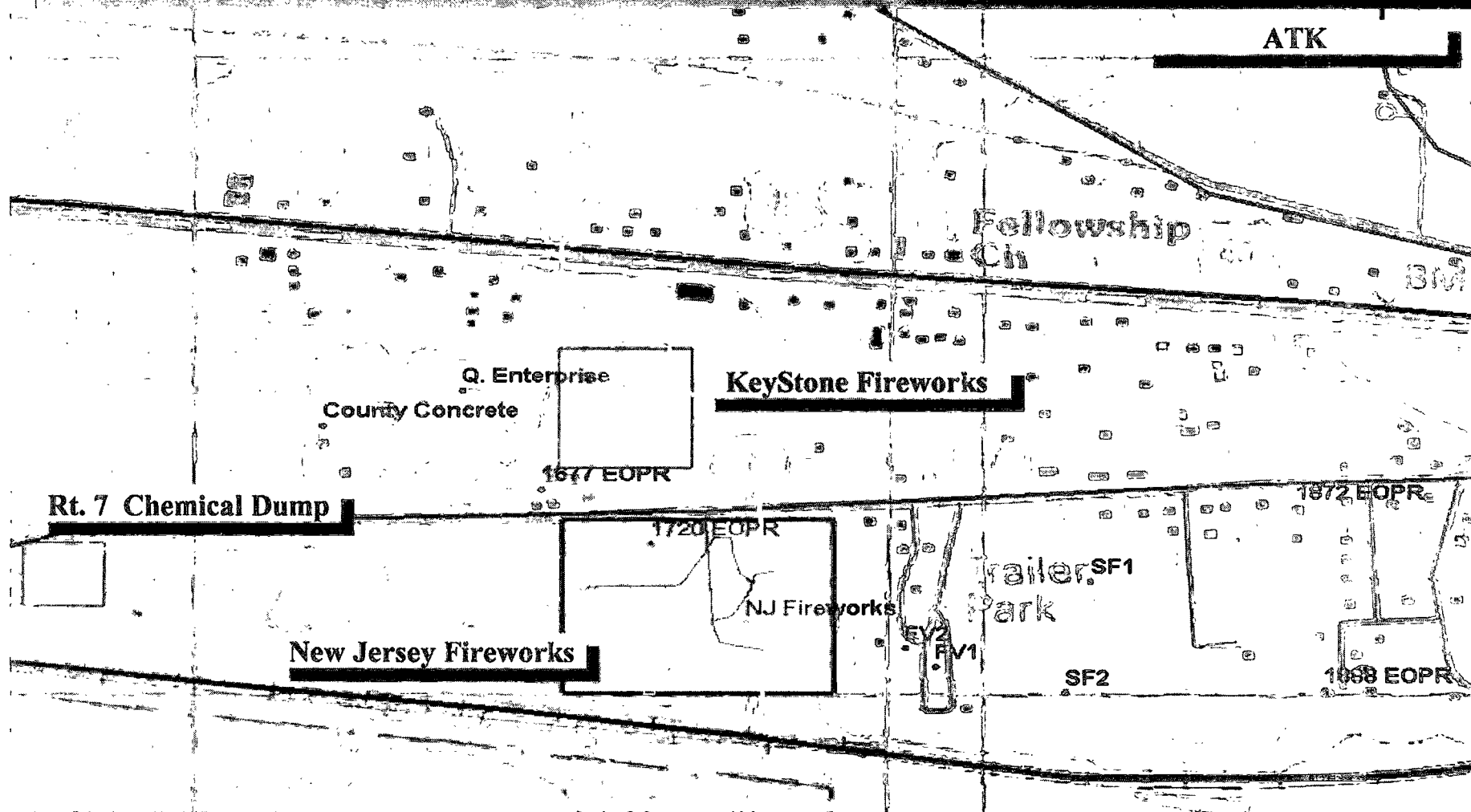


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Possible Perchlorate Source Areas

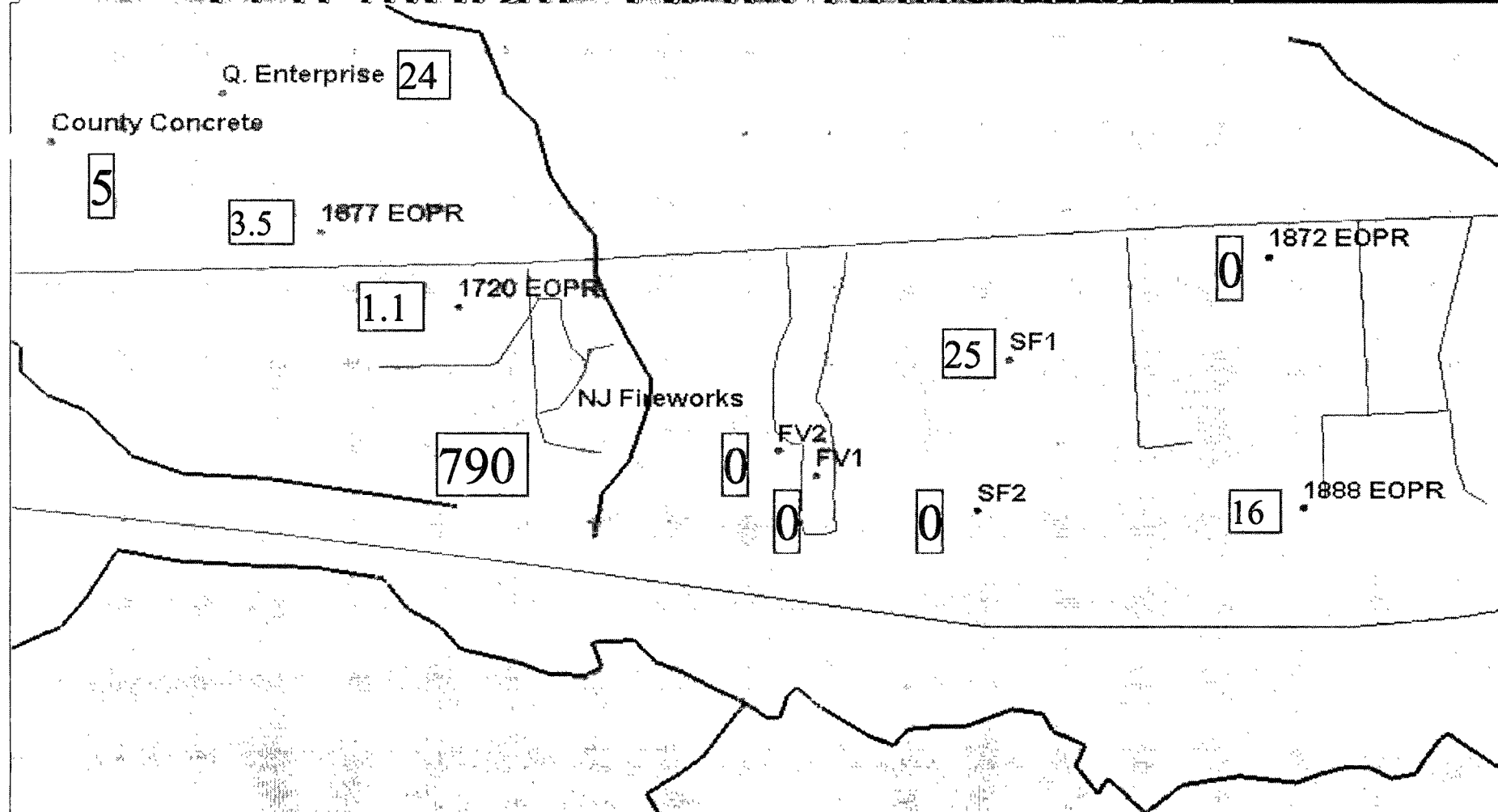


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Perchlorate Detections (ug/l)

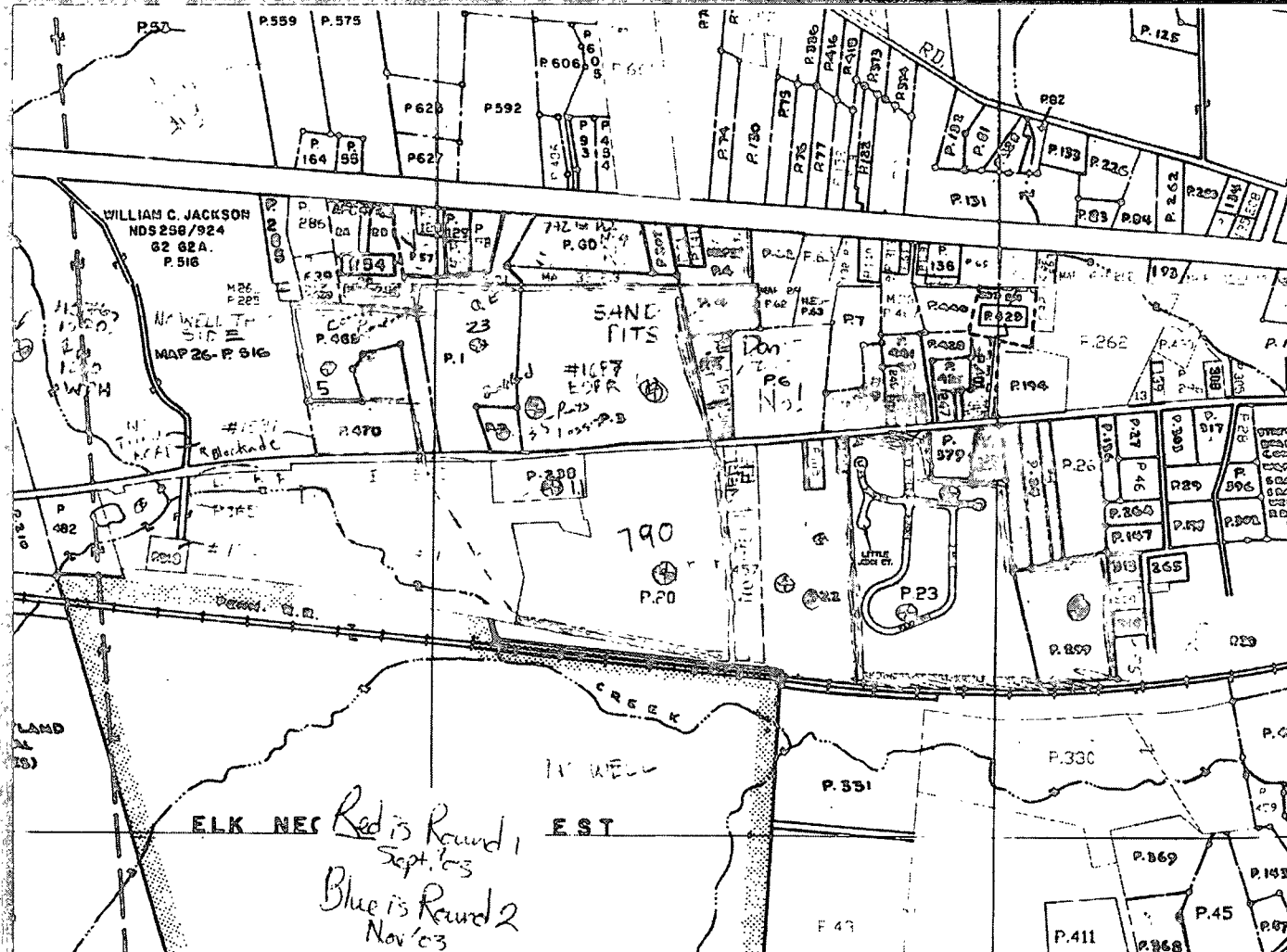


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Residential Sampling Results

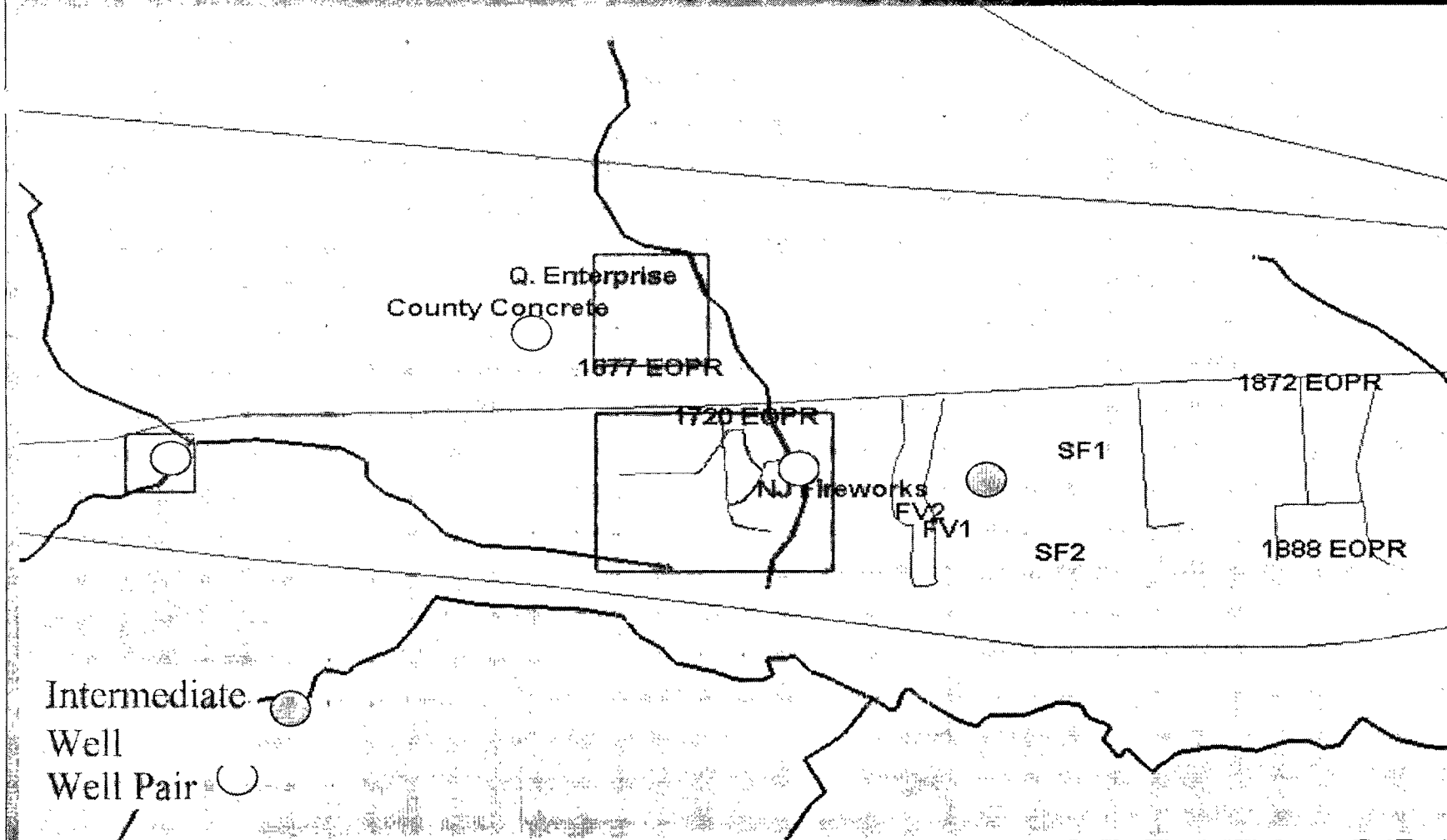


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Planned Well Installations



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Triumph Industrial Park

- In 1998 MDE conducted a Brownfields investigation of the remaining lands of the Triumph Industrial Park
- Surface and subsurface soil, groundwater, surface water and sediment were collected.
- Three separate GW plums were identified

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Historical Summary

- Site was used as a munitions plant during WW II
- Purchased by part owner of Galaxy Chemical
- Disposal of still bottom on property
- Additional contamination by subsequent generators and TSD facilities
- Former employees moved to new locations and established fireworks companies.

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Historical Summary

- **Sites being investigated by EPA under Corrective Action**
- **State Superfund**
- **RCRA**
- **FUDs**
- **Brownfields**

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Thank You

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Environmental Restoration
& Redevelopment
Program



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